

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A method of detecting an ink stick jam in a phasing printing system having an ink loader configured to hold a solid ink stick and wherein the stick is disposed for engagement with a heater for heating the solid ink stick to a liquid for communication of liquid ink to a print head for document printing, comprising:

applying a predetermined amount of power to the heater for melting the solid ink stick, wherein the predetermined amount of power will generate a melting temperature of the heater when the ink stick is engaging the heater for the communication of the liquid ink to a reservoir associated with the print head;

monitoring the temperature of the heater during the applying; and,

when the heater is determined to have a temperature selectively higher than the melting temperature and indicative of non-engagement between the heater and the ink stick, interrupting the applying of the power.

2. (Currently amended) The method as defined in claim 1 wherein the applying comprises generating the ~~corresponding~~ melting temperature to be about one hundred ten degrees Centigrade and the temperature higher than the ~~corresponding~~ melting temperature is about one hundred fifty degrees Centigrade.

3. (Original) The method as defined in claim 1 wherein the monitoring comprises disposing a thermistor at the heater for generating a signal representative of heater temperature.

4. (Currently amended) An ink stick jam detection system in an ink phasing printing assembly wherein a solid ink stick is heated to a liquid phase for communication to a print head for document printing, comprising:

a tray for holding the solid ink stick and having an open end for egress of liquid phase ink during heating;

a heater disposed at the open end to contact the ink stick and wherein the tray is disposed to urge the ink stick into contact with the heater and direct the liquid phase ink to a downstream reservoir;

a power supply for supplying energy to the heater;

a control circuit for adjusting the supplied energy; and,

a sensor for sensing a parameter representative of heater temperature at the heater wherein when the sensor senses the heater temperature to be indicative of non-contact between the ink stick and the heater, the control circuit interrupts the supply of energy to the heater.

5. (Original) The system as claimed in claim 4 wherein the sensor comprises a thermistor disposed on the heater and in communication with the control circuit.

6. (Previously presented) A method of detecting an ink stick jam in a solid to liquid ink phasing delivery system for supplying ink to a printer, wherein the phasing system includes a heater plate disposed to engage a solid ink stick and heat an engaging portion of the ink stick to a liquid phase, a temperature sensing device associated with the heater plate for detecting a temperature thereof and a control system for selectively supplying power to the heater plate, the method comprising:

supplying a predetermined amount of power through the control system to the heater plate intended to achieve a desired melt rate of the ink stick during a phase change from solid to liquid, the desired melt rate being associated with a predetermined desired temperature of the heater plate;

sensing the temperature of the heater plate with the sensing device during the supply of power thereto;

when the sensed temperature of the heater plate varies from the predetermined desired temperature by a selected amount indicative of non-engagement of the ink stick with the heater plate, interrupting the supplied power whereby heater damage and printer ink starvation can be avoided.